

=> d 1-12 bib ab

L25 ANSWER 1 OF 12 USPATFULL  
AN 2002:12621 USPATFULL  
TI AQUEOUS BASE COATING COMPOSITION FOR POLYOLEFIN SURFACES  
IN STEVENSON, MICHAEL J., SEDONA, AZ, UNITED STATES  
REEVES, ROBERT A., COTTONWOOD, AZ, UNITED STATES  
STEVENSON, MATTHEW P., SEDONA, AZ, UNITED STATES  
PI US 2002007004 A1 20020117  
AI US 1999-240910 A1 19990129 (9)  
DT Utility  
FS APPLICATION  
LREP JOSEPH C. ANDRAS, MYERS, DAWES & ANDRAS, LLP, 650 TOWN CENTER DRIVE,  
SUITE 650, COSTA MESA, CA, 92626  
CLMN Number of Claims: 8  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 297

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB There is disclosed an aqueous-base coating composition containing, as essential components, finely-divided, water-dispersable: colorant, **polyethylene**, binder and water with sufficient of a surface active agent to form a stable suspension. The coating composition is applied as a film coating onto a **polyethylene** surface and the binder temporarily binds the coating to the surface until the coating can be thermally treated to incorporate the coating into the **polyethylene**, permanently coloring the surface. The invention also comprises a method for the preparation of the aqueous-base coating composition in which the essential components are prepared as aqueous dispersions or emulsions which are blended together to form the final coating composition.

L25 ANSWER 2 OF 12 USPATFULL  
AN 2001:229273 USPATFULL  
TI METHOD AND COMPOSITION TO ENHANCE POLYOLEFIN SURFACES  
IN STEVENSON, MICHAEL J., SEDONA, AR, United States  
REEVES, ROBERT A., COTTONWOOD, AR, United States  
STEVENSON, MATTHEW P., SEDONA, AR, United States  
PI US 2001051222 A1 20011213  
AI US 1997-914536 A1 19970819 (8)  
DT Utility  
FS APPLICATION  
LREP MYERS, DAWES & ANDRAS LLP, 19900 MACARTHUR BOULEVARD, SUITE 1150,  
IRVINE, CA, 92612  
CLMN Number of Claims: 38  
ECL Exemplary Claim: 1  
DRWN 8 Drawing Page(s)  
LN.CNT 470

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB There is disclosed a method for permanently and decoratively enhancing a **polyethylene** surface of a preformed article. In this method, a decorative enhancement composition is created by blending particulate thermoplastic powder, a binder solid, and a colorant into a liquid carrier. The particulate thermoplastic powder bonds to the colorant, the binder solid promotes adhesion of the colored thermoplastic to the **polyethylene** surface until it can be bonded, and the liquid carrier facilitates the transfer of the colored thermoplastic to the **polyethylene** surface of the preformed article. The decorative enhancement composition is applied to the **polyethylene** surface. The deposited decorative enhancement composition and the interfacing **polyethylene** surface are heated sufficiently to

*here*

*this case*

incorporate the decorative enhancement composition into the **polyethylene** surface. The enhanced **polyethylene** surface is allowed to cure by removal of the application of heat. Upon curing, the decorative enhancement composition is permanently incorporated into the **polyethylene** surface enhancing the physical properties and the appearance of the preformed article.

This invention also comprises a decorative enhancement composition for the permanent decorative enhancement of **polyethylene** surfaces of preformed articles consisting essentially of a dry weight ratio of 70 to 95 percent binder solid to 70 to 30 percent particulate thermoplastic powder combined with colorant, wherein colorant comprises 9 to 50 percent of the total dry weight of the binder, powder, and pigment, mixed with liquid carrier, wherein the liquid carrier comprises 20 to 90 weight percent liquid carrier.

L25 ANSWER 3 OF 12 CAPLUS COPYRIGHT 2002 ACS  
AN 2001:906125 CAPLUS  
DN 136:38878  
TI Method and composition to permanently and decoratively enhance polyolefin surfaces  
IN Stevenson, Michael J.; Reeves, Robert A.; Stevenson, Matthew P.  
PA USA  
SO U.S. Pat. Appl. Publ., 14 pp.  
CODEN: USXXCO  
DT Patent  
LA English  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
	-----	-----	-----	-----	-----	
PI	US 2001051222	A1	20011213	US 1997-914536	19970819	
AB	There is disclosed a method for permanently and decoratively enhancing a <b>polyethylene</b> surface of a preformed article. In this method, a decorative enhancement compn. is created by blending particulate thermoplastic powder, a binder solid, and a colorant into a liq. carrier. The particulate thermoplastic powder bonds to the colorant, the binder solid promotes adhesion of the colored thermoplastic to the <b>polyethylene</b> surface until it can be bonded, and the liq. carrier facilitates the transfer of the colored thermoplastic to the <b>polyethylene</b> surface of the preformed article. The decorative enhancement compn. is applied to the <b>polyethylene</b> surface. The deposited decorative enhancement compn. and the interfacing <b>polyethylene</b> surface are heated sufficiently to incorporate the decorative enhancement compn. into the <b>polyethylene</b> surface. The enhanced <b>polyethylene</b> surface is allowed to cure by removal of the application of heat. Upon curing, the decorative enhancement compn. is permanently incorporated into the <b>polyethylene</b> surface enhancing the phys. properties and the appearance of the preformed article. This invention also comprises a decorative enhancement compn. for the permanent decorative enhancement of <b>polyethylene</b> surfaces of preformed articles consisting essentially of a dry wt. ratio of 70 to 95% binder solid to 70 to 30% particulate thermoplastic powder combined with colorant, wherein colorant comprises 9 to 50% of the total dry wt. of the binder, powder, and pigment, mixed with liq. carrier, wherein the liq. carrier comprises 20 to 90 wt. percent liq. carrier.					<i>This case</i>

L25 ANSWER 4 OF 12 USPATFULL  
AN 2001:152324 USPATFULL  
TI Method and composition for cosmetically repairing a blemish in a polyolefin object  
IN Stevenson, Michael J., 1200 Soldier Pass Rd., Sedona, AZ,  
United States 86336

Reeves, Robert A., 845 Oasis Dr., Cottonwood, AZ, United States 86326  
 Stevenson, Matthew, 385 Ross Rd., Sedona, AZ, United States 86336  
 PI US 6287405 B1 20010911  
 AI US 1999-256646 19990223 (9)  
 DT Utility  
 FS GRANTED  
 EXNAM Primary Examiner: Teskin, Fred  
 LREP Myers, Dawes & Andras, Andras, Joseph C. ✓  
 CLMN Number of Claims: 24  
 ECL Exemplary Claim: 1  
 DRWN 12 Drawing Figure(s); 3 Drawing Page(s)  
 LN.CNT 372  
 AB There is disclosed a method and composition for cosmetically repairing a surface void in polyolefin objects. The method involves inserting a repair composition into the void and then applying heat thereto to fuse the repair composition with a surrounding portion of the polyolefin object. The repair composition is a physical mixture of a thermoplastic powder, a resin binder, and a solvent, having a paste-like consistency. The repair composition may be neutral in color, or may contain a colorant to closely match the underlying object. The heating step can be performed with an open flame or with a heat gun.

L25 ANSWER 5 OF 12 CAPLUS COPYRIGHT 2002 ACS  
 AN 2002:51991 CAPLUS  
 DN 136:103925  
 TI Aqueous base coating composition, and its manufacture for application to polyolefin surfaces  
 IN Stevenson, Michael J.; Reeves, Robert A.; Stevenson, Matthew P.  
 PA USA  
 SO U.S. Pat. Appl. Publ., 4 pp.  
 CODEN: USXXCO

DT Patent Patent  
 LA English  
 FAN.CNT 1  
 PATENT NO. KIND DATE APPLICATION NO. DATE  
 ----- ----- ----- -----  
 PI US 2002007004 A1 20020117 US 1999-240910 19990129  
 AB An aq.-based coating compn. contains finely-divided, water-dispersable colorant 1-60, **polyethylene** 20-80, binder 10-75, H<sub>2</sub>O 15-85, and surface active agent 0.1-2% to form a stable suspension. The coating compn. is applied as a film coating onto a **polyethylene** surface and the binder temporarily binds the coating to the surface until the coating can be thermally treated to incorporate the coating into the **polyethylene**, permanently coloring the surface (no data). A method for the prepn. of the aq.-based coating compn. involves blending components as aq. dispersions or emulsions which are blended together to form the final coating compn.

L25 ANSWER 6 OF 12 CAPLUS COPYRIGHT 2002 ACS  
 AN 1987:498356 CAPLUS  
 DN 107:98356  
 TI Pattern transfers used in rotomolding  
 IN Stevenson, Michael J.  
 PA USA  
 SO Can., 26 pp.  
 CODEN: CAXXA4  
 DT Patent  
 LA English  
 FAN.CNT 1  
 PATENT NO. KIND DATE APPLICATION NO. DATE  
 ----- ----- ----- -----  
 PI CA 1217981 A1 19870217 CA 1984-453799 19840508

JP 59212295	A2	19841201	JP 1983-236017	19831213
JP 05014627	B4	19930225		
AU 8427899	A1	19841122	AU 1984-27899	19840510
AU 570460	B2	19880317		
PRAI US 1983-495754		19830518		

AB Transfers for the title use comprise a release paper and a pos. pattern coating contg. 25-85% pigment in a wax, e.g. microcryst. or **polyethylene**. Positioning the transfer on the inside wall of a rotational mold, burnishing the pattern onto the wall, removing the release paper, and rotational molding of a resin gave a printed or decorated molded product. 

L25 ANSWER 7 OF 12 USPATFULL

AN 81:10752 USPATFULL

TI Method for printing and decorating products in a rotomolding process

IN **Stevenson, Michael J.**, 945 S. Laurel St., Santa Ana, CA,  
United States 92704

PI US 4252762 19810224

AI US 1978-971925 19781221 (5)

DT Utility

FS Granted

EXNAM Primary Examiner: Hoag, W. E.

LREP Strauss, Robert E.

CLMN Number of Claims: 19

ECL Exemplary Claim: 1

DRWN 5 Drawing Figure(s); 1 Drawing Page(s)

LN.CNT 381

AB There is disclosed a method for the imprinting and decorating rotomolded products. The method comprises the application to the interior surfaces of the mold of a viscous suspension of pigment in a preselected pattern. The suspension is applied to the mold surface in an oil carrier using a vegetable, animal or mineral oil that is inert under the molding conditions and that has a sufficient viscosity at the molding conditions to maintain the film on the mold surfaces. The pattern of the pigment suspension is applied by spraying, brushing, screen printing and the like and, after its application, the conventional rotomolding can be practiced. In this method, the powdered plastic, typically high density **polyethylene**, in powder form is charged to the mold, the mold is closed and placed in an oven heated to from 500.degree. F. to about 800.degree. F. while rotating the mold along two axes, to tumble the plastic powder against the heated side of the mold where the powder consolidates into an integral molded wall of a plastic shape. The invention provides a very high line or character definition preferably using finely subdivided pigments. 

L25 ANSWER 8 OF 12 USPATFULL

AN 1998:146872 USPATFULL

TI Decoration and printing on polyolefin surfaces

IN **Stevenson, Michael J.**, 1200 Soldier Pass Rd., Sedona, AZ,  
United States 86336

Reeves, Robert A., 845 Oasis Dr., Cottonwood, AZ, United States 86326

Stevenson, Matthew P., 385 Ross Rd., Sedona, AZ, United States 86336

PI US 5840142 19981124

AI US 1996-754159 19961122 (8)

DT Utility

FS Granted

EXNAM Primary Examiner: Mayes, Curtis

LREP Strauss, Robert E.

CLMN Number of Claims: 11

ECL Exemplary Claim: 1

DRWN 6 Drawing Figure(s); 2 Drawing Page(s)

LN.CNT 364



CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB There is disclosed a method for the permanent application of indicia to the surface of the polyolefin object by applying pigmented material to the surface in an indica pattern, preferably from a transfer sheet. Preferably the pigmented material is a mixture of finely divided pigment, hydrocarbon wax and finely divided polyolefin. The polyolefin surface bearing the indicia is coated with a coating mixture comprising a mixture of polyolefin and a binder such as a rosin or wax. Thereafter, the coated, indicia-bearing polyolefin surface is surface-heated to a temperature sufficient to fuse the coating and incorporate the coating and indicia permanently into the polyolefin object. The heating can be performed by passing a heat source across the surface.

L25 ANSWER 9 OF 12 WPIDS (C) 2002 THOMSON DERWENT

AN 2000-594050 [56] WPIDS

DNN N2000-439987 DNC C2000-177329

TI Repair of surface blemish of polyolefin object, involves applying composition containing thermoplastic component, resin and organic solvent to void surface followed by heating.

DC A14 A17 A35 P73

IN REEVES, R A; STEVENSON, M; STEVENSON, M J

PA (REEV-I) REEVES R A; (STEV-I) STEVENSON M; (STEV-I) STEVENSON M J

CYC 28

PI WO 2000050243 A1 20000831 (200056)\* EN 22p

RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE  
W: AU BR CA IL JP MX NO NZ

AU 2000033744 A 20000914 (200063)

US 6287405 B1 20010911 (200154)

NO 2001004086 A 20011022 (200175)

EP 1171302 A1 20020116 (200207) EN

✓

R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

ADT WO 2000050243 A1 WO 2000-US4624 20000222; AU 2000033744 A AU 2000-33744  
20000222; US 6287405 B1 US 1999-256646 19990223; NO 2001004086 A WO  
2000-US4624 20000222, NO 2001-4086 20010822; EP 1171302 A1 EP 2000-911930  
20000222, WO 2000-US4624 20000222

FDT AU 2000033744 A Based on WO 200050243; EP 1171302 A1 Based on WO 200050243

PRAI US 1999-256646 19990223

AB WO 200050243 A UPAB: 20001106

NOVELTY - Repairing of a surface blemish (31) of a polyolefin object (21) involves (a) inserting a composition (41) consisting of 30-60 weight% (wt.%) of a thermoplastic component, 15-45 wt.% of a resin and 5-35 wt.% of an organic solvent, into the void (32) of the object and (b) performing atmospheric heating to fuse the composition into the polyolefin object.

DETAILED DESCRIPTION - A composition consisting of 30-60 wt.% of a thermoplastic component selected from **polyethylene**, **polypropylene** and **ethyl-vinyl acetate (EVA)**, 15-45 wt.% of a resin component selected from aliphatic and aromatic hydrocarbons, **polyterpene**, **rosin** and **rosin-ester**, chlorinated polyolefin resins, **petroleum** and **synthetic** and **oxidized waxes** and 5-35 wt.% of an organic solvent, is inserted into the blemish part. The composition in the void and surrounding portion of polyolefin object are subjected to atmospheric heating at a temperature which fuses the composition into the polyolefin object. An INDEPENDENT CLAIM is also included for a repair composition for repairing surface blemish of polyolefin object.

USE - For repairing blemish surface of polyolefin objects (claimed) such as polyolefin plastics.

ADVANTAGE - The blemish surface of the polyolefin object is repaired permanently. The composition applied, matches the color of polyolefin object (claimed).

DESCRIPTION OF DRAWING(S) - Figure 1 shows a typical polyolefin object consisting of a pot made by rotationally molding **polyethylene**. Figures 2 and 3 show the hypothetical blemish 31 in

more detail. Figure 3 is across-sectional view of figure 2 taken along the lines 3-3, showing the objects wall and blemish from the side.

Polyolefin object 21

Blemish 31

Void 32

1,2,3/12

L25 ANSWER 10 OF 12 CAPLUS COPYRIGHT 2002 ACS

AN 1996:580295 CAPLUS

DN 125:198060

TI Thermoplastic spray material and method for streak-free coating of plastics

IN Stevenson, Michael J.; Reeves, Robert Alan

PA USA

SO PCT Int. Appl., 74 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9623041	A1	19960801	WO 1996-US587	19960119
	W: AU, BG, CA, CN, FI, HU, JP, KR, NO, NZ, PL, RO, RU, UA RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	AU 9647581	A1	19960814	AU 1996-47581	19960119
PRAI	US 1995-390292		19950123		
	WO 1996-US587		19960119		
AB	A thermoplastic spray material that bonds to plastics, e.g., polyolefins and preferably <b>polyethylene</b> , comprises an adhesive in 5-95% of the compn., particulate polyolefin in 5-95% of the compn., a pigment in sufficient concn. to impart coloration, and a solvent. The particulate polyolefin powder has particle size of less than 50 .mu. and the adhesive has softening point of 10-122.degree. and is one of: rosin, aliph. hydrocarbon resins, terpene based resins, arom. hydrocarbon resins, petroleum waxes, and mixts. thereof. Preferably, the adhesive comprises about 70% of a pentaerythritol ester of rosin and about 30% of a hydrogenated Me ester of rosin. The solvent in the spray material is one of: toluene, xylene, acetone, Me Et ketone, naphtha, mineral spirits, methylene chloride, iso-Pr alc., water, and mixts. thereof. A method for improving molding and coating of an object from a polyolefin comprises application of the thermoplastic spray material on to the interior surface of the cavity prior to introducing the resin. The thermoplastic spray material will completely dry after application to an interior surface of a mold, thus preventing streaks and smears on the exterior surface of the plastic object when the mold goes through the rotational molding process. A method for coating a plastic object comprises direct application of the thermoplastic spray material to the exterior surface, then heating, to blend the material into and onto the plastic object. Alternatively, the thermoplastic spray material may be applied to a decal like object, as an adhesive, so that the decal may adhere to the interior surface of a mold.				

L25 ANSWER 11 OF 12 USPATFULL

AN 85:31405 USPATFULL

TI Method for use of pattern transfers in rotomolding

IN Stevenson, Michael J., 1312 Say Rd., Santa Paula, CA, United States 93060

PI US 4519972 19850528

AI US 1983-495754 19830518 (6)

DT Utility

FS Granted

EXNAM Primary Examiner: Derrington, James

LREP Strauss, Robert E.

*Derek*

CLMN Number of Claims: 6  
ECL Exemplary Claim: 1  
DRWN 6 Drawing Figure(s); 1 Drawing Page(s)  
LN.CNT 373

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB There is disclosed a method for imparting a decorative or printed pattern to the surface of rotationally molded products during their manufacture. In this method, the decorative patterns are formed on a sheet film transfer as a coating of pigments dispersed in a hydrocarbon wax which overlays a release agent, such as a silicone coating on the sheet film. The decorative wax pattern is applied to a preselected area of an inside wall of the rotational molding cavity by positioning the transfer against the surface of the wall and burnishing the pattern onto the interior wall of the mold cavity. Thereafter, the particulate molding resin is charged to the cavity and the product is molded in a conventional procedure, resulting in transfer of the pattern as pigments incorporated into the resin, with most of the wax surfacing and being excluded from the product.

L25 ANSWER 12 OF 12 WPIDS (C) 2002 THOMSON DERWENT

AN 1984-295815 [48] WPIDS

DNN N1984-220523 DNC C1984-125531

TI Transfer patterns for use in decorating rota moulded prods. - comprise dispersions of pigments in hydrocarbon waxes, giving durable embedded finish.

DC A18 A97 G05 P73 P75 P78

IN STEVENSON, M J

PA (STEV-I) STEVENSON M

CYC 12

PI EP 126339 A 19841128 (198448)\* EN 27p

R: CH DE FR GB IT LI NL SE

AU 8427899 A 19841122 (198503)

US 4519972 A 19850528 (198524)

CA 1217981 A 19870217 (198712)

EP 126339 B 19890719 (198929) EN

R: CH DE FR GB IT LI NL SE

DE 3479015 G 19890824 (198935)

JP 59212295 A 19841201 (199311)

JP 05014627 B 19930225 (199311) 7p

ADT EP 126339 A EP 1984-104788 19840428; US 4519972 A US 1983-495754 19830518;  
JP 59212295 A JP 1983-236017 19831213; JP 05014627 B JP 1983-236017  
19831213

FDT JP 05014627 B Based on JP 59212295

PRAI US 1983-495754 19830518

AB EP 126339 A UPAB: 19930925

Transfer patterns consist of (A) a sheet film carrier coated on one or both sides with a release agent; and (B) a positive pattern layer, distributed in a predetermined design on a coated side of (A), comprising a mixt. of 25-85 wt.% pigments dispersed in a petroleum wax, m.pt. 66-132 deg.C.

Pref. (B) may also contain 0.5-25 wt.% terpene resin to increase its tack and it may be formed from microcrystalline wax, plastic wax, or polyethylene of m.wt. 500-2,000 having a crystalline, aliphatic structure.

ADVANTAGE - Pigments are incorporated in the skin of rotamoulded resin prods. giving a durable decorative finish, the wax being diffused away in the process.

0/6

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L3 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2002 ACS  
AN 1996:580295 CAPLUS  
DN 125:198060  
TI Thermoplastic spray material and method for streak-free coating of plastics  
IN Stevenson, Michael J.; Reeves, Robert Alan  
PA USA  
SO PCT Int. Appl., 74 pp.  
CODEN: PIXXD2  
DT Patent  
LA English  
IC ICM C09J123-06  
ICS C09J145-00  
CC 38-3 (Plastics Fabrication and Uses)  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9623041	A1	19960801	WO 1996-US587	19960119 <--
	W: AU, BG, CA, CN, FI, HU, JP, KR, NO, NZ, PL, RO, RU, UA RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	AU 9647581	A1	19960814	AU 1996-47581	19960119
PRAI	US 1995-390292		19950123		
	WO 1996-US587		19960119		

AB A thermoplastic spray material that bonds to plastics, e.g., polyolefins and preferably polyethylene, comprises an adhesive in 5-95% of the compn., particulate polyolefin in 5-95% of the compn., a pigment in sufficient concn. to impart coloration, and a solvent. The particulate polyolefin powder has particle size of less than 50 .mu. and the adhesive has softening point of 10-122.degree. and is one of: rosin, aliph. hydrocarbon resins, terpene based resins, arom. hydrocarbon resins, petroleum waxes, and mixts. thereof. Preferably, the adhesive comprises about 70% of a pentaerythritol ester of rosin and about 30% of a hydrogenated Me ester of rosin. The solvent in the spray material is one of: toluene, xylene, acetone, Me Et ketone, naphtha, mineral spirits, methylene chloride, iso-Pr alc., water, and mixts. thereof. A method for improving molding and coating of an object from a polyolefin comprises application of the thermoplastic spray material on to the interior surface of the cavity prior to introducing the resin. The thermoplastic spray material will completely dry after application to an interior surface of a mold, thus preventing streaks and smears on the exterior surface of the plastic object when the mold goes through the rotational molding process. A method for coating a plastic object comprises direct application of the thermoplastic spray material to the exterior surface, then heating, to blend the material into and onto the plastic object. Alternatively, the thermoplastic spray material may be applied to a decal like object, as an adhesive, so that the decal may adhere to the interior surface of a mold.

ST thermoplastic polyolefin spray coating molding plastic; adhesive  
thermoplastic polyolefin spray decal

IT Rosin  
RL: TEM (Technical or engineered material use); USES (Uses)  
(pentaerythritol and hydrogenated Me esters; thermoplastic spray material and method for streak-free coating of plastics)

IT Adhesives  
Decalcomanias  
Molds (forms)  
Solvent naphtha  
(thermoplastic spray material and method for streak-free coating of plastics)

IT Aromatic hydrocarbons, uses  
Hydrocarbons, uses

Paraffin waxes and Hydrocarbon waxes, uses  
Petroleum spirits  
Terpenes and Terpenoids, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(thermoplastic spray material and method for streak-free coating of  
plastics)

IT Alkenes, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(polymers, thermoplastic spray material and method for streak-free  
coating of plastics)

IT Molding of plastics and rubbers  
(rotational, thermoplastic spray material and method for streak-free  
coating of plastics)

IT Coating process  
(spray, thermoplastic spray material and method for streak-free coating  
of plastics)

IT Plastics  
RL: TEM (Technical or engineered material use); USES (Uses)  
(thermo-, thermoplastic spray material and method for streak-free  
coating of plastics)

IT Coating materials  
(thermoplastic, pigmented; thermoplastic spray material and method for  
streak-free coating of plastics)

IT 9002-88-4, Polyethylene  
RL: PEP (Physical, engineering or chemical process); TEM (Technical or  
engineered material use); PROC (Process); USES (Uses)  
(thermoplastic spray material and method for streak-free coating of  
plastics)

IT 67-63-0, Isopropyl alcohol, uses 67-64-1, Acetone, uses 75-09-2,  
Methylene chloride, uses 78-93-3, Methyl ethyl ketone, uses 108-88-3,  
Toluene, uses 115-77-5D, Pentaerythritol, rosin esters 1330-20-7,  
Xylene, uses 7732-18-5, Water, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(thermoplastic spray material and method for streak-free coating of  
plastics)

RN 9002-88-4  
RN 67-63-0  
RN 67-64-1  
RN 75-09-2  
RN 78-93-3  
RN 108-88-3  
RN 115-77-5D  
RN 1330-20-7  
RN 7732-18-5

L3 ANSWER 2 OF 2 WPIDS (C) 2002 THOMSON DERWENT  
AN 1996-362669 [36] WPIDS  
DNC C1996-114278

TI Thermoplastic spray material for bonding to plastic objects - comprises  
adhesive for adhering polyolefin objects, particulate polyolefin, pigment  
and solvent, does not leave spots or residue on exterior surface.

DC A18 A32 A81 E24 G02 G03  
IN REEVES, R A; STEVENSON, M J  
PA (STEV-I) STEVENSON M J  
CYC 30  
PI WO 9623041 A1 19960801 (199636)\* EN 72p C09J123-06 <--  
RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE  
W: AU BG CA CN FI HU JP KR NO NZ PL RO RU UA  
AU 9647581 A 19960814 (199650) C09J123-06  
ADT WO 9623041 A1 WO 1996-US587 19960119; AU 9647581 A AU 1996-47581 19960119,  
WO 1996-US587 19960119  
FDT AU 9647581 A Based on WO 9623041

PRAI US 1995-390292 19950123

REP US 3929703; US 3993613; US 5115035; US 5244962; US 5360855

IC ICM C09J123-06

ICS C09J145-00

AB WO 9623041 A UPAB: 19960913

A thermoplastic spray material for bonding to plastic objects including polyethylene plastic comprises 5-95 wt.% of an adhesive that adheres to polyolefin, 5-95 wt.% of particulate polyolefin, a pigment to colour the spray material and a solvent to dissolve the adhesive and carry the particulate polyolefin and pigment.

Also claimed is (1) the application of the thermoplastic spray material to the interior surface of a cavity of a mould prior to introducing resin into the cavity, and (2) the coating of a polyolefinic plastic object by applying the spray material to the surface of the plastic object to coat it, and heating the object to bond the spray material to the object surface.

Pref. the polyolefin plastic object and particulate polyolefin is of polyethylene, the particulate having a particle size of less than 50 microns. the adhesive has a softening point of 10-122deg.C. The adhesive consists of one of rosin, rosin derivs., aliphatic and aromatic hydrocarbon resins, terpene based resins, petroleum waxes and mixts., more pref. a combination of 70 wt.% of pentaerythritol ester of rosin and 30 wt.% of a hydrogenated methyl ester of rosin. The solvent is one of toluene, xylene, acetone, methyl ethyl ketone, naphtha, mineral spirits, methylene chloride, isopropyl alcohol, water and mixts.. The spray material is applied to the interior surface of the mould prior to heating of the mould.

USE - Used for bonding, e.g. graphics to plastic objects such as polyolefin.

ADVANTAGE - The spray does not leave any spots or residue on the exterior surface of a plastic object, since the spray completely dries and therefore does not run or smear. When applied to the exterior of plastic objects the film does not chip or fade. Also the spray material may be applied to a decal to help the decal stick to the interior surface of a mould.

Dwg.1/6

FS CPI

FA AB; GI; DCN

MC CPI: A04-G01D; A04-G02D; A08-E01; A08-S02; A11-B05B1; A11-B05D; A12-B07; E25; G02-A06

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L6 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2002 ACS  
AN 1997:483497 CAPLUS  
DN 127:96325  
TI Molded plastic surface enhancer and its use  
IN Stevenson, Michael J.; Reeves, Robert A.  
PA Stevenson, Michael J., USA  
SO PCT Int. Appl., 22 pp.  
CODEN: PIXXD2  
DT Patent  
LA English  
IC ICM B28B007-36  
ICS C08L091-06; C08L093-04  
CC 38-3 (Plastics Fabrication and Uses)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	WO 9720667	A1	19970612	WO 1996-US19058	19961127 <--
	W: AU, BR, CA, CN, IL, JP, KR, MX, NO, NZ, VN RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	AU 9710631	A1	19970627	AU 1997-10631	19961127 <--
	EP 917505	A1	19990526	EP 1996-941509	19961127 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, FI				
PRAI	US 1995-566906		19951204		<--
	WO 1996-US19058		19961127		

AB The enhancer is applied to the interior surfaces of the mold cavity used in a molding process such as blow molding, injection molding, thermoforming or rotational molding. The enhancer is applied prior to closing of the mold and molding of the plastic article. The enhancer comprises a liq. carrier contg. 1toreq.50 wt.% enhancement solids which comprise a mixt. of an enhancement solid such as particles of varied thermoplastic and thermosetting resins, metal flakes, glass beads, C, graphite, etc., and a binder solid which can be hydrocarbon resin, wax, rosin or terpene base resin. The enhancer provides for unlimited modification of the surfaces of molded plastic products with low cost.

ST molded plastic surface enhancer

IT Rosin

Waxes

RL: TEM (Technical or engineered material use); USES (Uses)  
(binder, enhancer contg.; molded plastic surface enhancer and its use)

IT Glass beads

RL: TEM (Technical or engineered material use); USES (Uses)  
(enhancer contg.; molded plastic surface enhancer and its use)

IT Plastics, uses

RL: TEM (Technical or engineered material use); USES (Uses)  
(molded plastic surface enhancer and its use)

IT Terpenes, uses

RL: TEM (Technical or engineered material use); USES (Uses)  
(polymers; binder, enhancer contg.; molded plastic surface enhancer and its use)

IT Hydrocarbons, uses

RL: TEM (Technical or engineered material use); USES (Uses)  
(resins, binder, enhancer contg.; molded plastic surface enhancer and its use)

IT Plastics, uses

RL: TEM (Technical or engineered material use); USES (Uses)  
(thermoplastics, enhancer contg.; molded plastic surface enhancer and its use)

IT Plastics, uses

RL: TEM (Technical or engineered material use); USES (Uses)  
(thermosetting, enhancer contg.; molded plastic surface enhancer and its use)

its use)

IT 7440-44-0, Carbon, uses 7782-42-5, Graphite, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(enhancer contg.; molded plastic surface enhancer and its use)

RN 7440-44-0

RN 7782-42-5

L6 ANSWER 2 OF 2 WPIDS (C) 2002 THOMSON DERWENT

AN 1997-319607 [29] WPIDS

DNN N1997-264582 DNC C1997-103193

TI Enhancing moulded plastic product surfaces using an enhancement composition - allows almost unlimited surface modification in most moulding processes so specialised surface properties are achievable using a cheap structural polymer.

DC A18 A28 A32 A82 G02 P64

IN REEVES, R A; STEVENSON, M J; STEVENSON, M H

PA (STEV-I) STEVENSON M J

CYC 30

PI WO 9720667 A1 19970612 (199729)\* EN 22p B28B007-36  
RW: AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE  
W: AU BR CA CN IL JP KR MX NO NZ VN

AU 9710631 A 19970627 (199742) B28B007-36

US 5746961 A 19980505 (199825) B29C045-00

EP 917505 A1 19990526 (199925) EN B28B007-36  
R: AT BE CH DE DK ES FI FR GB GR IE IT LI LU NL PT SE

ADT WO 9720667 A1 WO 1996-US19058 19961127; AU 9710631 A AU 1997-10631  
19961127; US 5746961 A US 1995-566906 19951204; EP 917505 A1 EP  
1996-941509 19961127, WO 1996-US19058 19961127

FDT AU 9710631 A Based on WO 9720667; EP 917505 A1 Based on WO 9720667

PRAI US 1995-566906 19951204

REP US 4049680; US 4118235; US 4154789; US 4239796; US 4252762; US 4356230; US  
4389454; US 4548779; US 4840675; US 4936917; US 4969952; US 4980107; US  
4980113; US 5035849; US 5076989; US 5304332; US 5308393; US 5316716; US  
5464585; US 5525150

IC ICM B28B007-36; B29C045-00

ICS C08L091-06; C08L093-04

AB WO 9720667 A UPAB: 19970716  
Enhancement of the surface of plastic products formed by molding thermoplastic resin against a heated mold surface, comprising coating at least a portion of the mold surface with an enhancement composition before contacting the mold surface with the thermoplastic resin, the enhancement composition consisting essentially of: (a) 50 - 75 wt.% liquid carrier; and (b) 25 - 50 wt.% enhancement solids comprising: (1) 5 - 95 wt.% enhancement solid particles of: thermoplastic and thermosetting polymer resins; metal flakes; glass beads; carbon; graphite; antistatic agents comprising quaternary ammonium salts and fatty acid esters; flame retardants comprising aluminium, phosphorous and boron compounds; lubricants comprising hydrocarbon paraffins, metal stearates, fatty acids and fatty acid amides and esters, and aliphatic alcohols and polyols; preservatives comprising copper, tin, antimony, ammonium, arsine and phthalimide compounds; polyvinyl chloride heat stabilizers comprising lead, barium, cadmium, zinc, phosphorous, nitrogen, tin and calcium compounds; and (2) 95 - 5 wt.% binder solid comprising: rosins, aromatic and aliphatic hydrocarbon resins and waxes, and terpene base resins.  
Also claimed is the above enhancement composition.  
USE - The process is useful in enhancing the surface of molded plastic articles, or imparting surface properties to plastic articles which are not characteristic of the structural polymer, wherein the articles are made by blow molding, injection molding, thermoforming, roto-molding etc.  
ADVANTAGE - The process allows almost unlimited modification of molded plastic product surfaces, making it possible to mold products

having very specialized surface properties with a structural polymer  
having an optimum blend of cost and strength.

Dwg. 0/0

FS CPI GMPI

FA AB

MC CPI: A11-B01; A11-C04; G02-A05

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L14 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2002 ACS  
 AN 1989:596814 CAPLUS  
 DN 111:196814  
 TI Simultaneous printing and rotational molding of polyethylene  
 IN Kazuma, Yasuo  
 PA Sanyo Electric Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 3 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM B41M003-06  
 ICS B29C041-04  
 CC 42-2 (Coatings, Inks, and Related Products)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 01133777	A2	19890525	JP 1987-291793	19871120 <--
AB	A molding is printed with good adhesion by a process which includes attaching a printing mold having a thermosetting ink layer to the holes corresponding to the area to be printed on a mold, feeding a polymer in the mold, and rotational molding. A polyethylene molding was printed with a thermosetting ink contg. pigments and powd. polyethylene.				
ST	printing rotational molding polyethylene				
IT	Printing, nonimpact (rotational molding and, of polyethylene, simultaneous)				
IT	Molding of plastics and rubbers (rotational, simultaneous printing and, of polyethylene)				
IT	Molding of plastics and rubbers (rotational, simultaneous printing and, of polyethylene)				

L14 ANSWER 2 OF 3 WPIDS (C) 2002 THOMSON DERWENT  
 AN 1989-196318 [27] WPIDS  
 DNN N1989-150030 DNC C1989-086940  
 TI Printing method for rotational moulding - using metal mould having pore part, feeding polymer material into mould and rotating.  
 DC A17 A35 G05 P75  
 PA (SAOL) SANYO ELECTRIC CO  
 CYC 1  
 PI JP 01133777 A 19890525 (198927)\* 3p <--  
 ADT JP 01133777 A JP 1987-291793 19871120  
 PRAI JP 1987-291793 19871120  
 IC B29C041-04; B41M003-06  
 AB JP 01133777 A UPAB: 19930923  
 Method comprises (i) using metal mould which has pore part for printing and filled with thermosetting ink, (ii) feeding polymer material into the metal mould and (iii) rotating to make rotational moulding and printing at the same time.  
 Pref. thermosetting ink comprises thermosetting vehicle contg. 0.1-5 wt. % of pigment and 10-50 wt. % of linear low density polyethylene powder.  
 USE/ADVANTAGE - Method is applied for spherical plastic moulding. Printing method avoids print trouble, such as elimination of printed ink from polyethylene moulding surface, which has been seen in conventional printing method.

FS CPI GMPI  
 FA AB  
 MC CPI: A11-B04A; A11-C04A; G05-F

L14 ANSWER 3 OF 3 JAPIO COPYRIGHT 2002 JPO  
 AN 1989-133777 JAPIO

TI PRINTING METHOD FOR ROTATIONALLY MOLDED PRODUCT  
IN KAZUMA YASUO  
PA SANYO ELECTRIC CO LTD, JP (CO 000188)  
PI JP 01133777 A 19890525 Heisei  
AI JP1987-291793 (JP62291793 Heisei) 19871120  
SO PATENT ABSTRACTS OF JAPAN, Unexamined Applications, Section: M, Sect. No. 863, Vol. 13, No. 38, P. 110 (19890823)  
IC ICM (4) B41M003-06  
ICS (4) B29C041-04  
AB PURPOSE: To enable efficient and favorable printing on a rotationally molded product, by providing a main body of a metallic mold with through-hole parts, fitting a printing mold with a thermosetting printing ink applied thereto is fitted to the main body, thereby forming a metallic mold for rotational molding, and a polymeric material is rotationally molded by placing the material in the metallic mold.  
CONSTITUTION: A main body 1 if a metallic mold is provided with through-hole parts 2 in patterns for printing, whereas a printing plate 3 is provided with a coated film 4 of a thermosetting ink by applying the ink in patterns substantially coinciding with the through-hole parts 2. The printing mold 3 is coated thereon with a fluororesin for ensuring easy release of a printed part after molding. A polyethylene powder is placed in the mold 1, 3, and molding is conducted by operating a rotational molding machine in a heating furnace or the like. The polyethylene is melted to form a resin layer on the entire inner surface of the mold, and simultaneously, a straght-chain low-density polyethylene contained in the ink film 4 is also melted. Particularly, the low-density polyethylene is melted to form a quasi-interstitial high molecular weight network structure, so that a body comprising a polyethylene resin layer 7 and the ink film 4 adhered to each other is obtained.

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